

IN THE CLAIMS

The following listing of the claims is provided in accordance with 37 C.F.R. §1.121.

1. (previously presented) A method for determining a location of an object within an area of interest, comprising:
 - transmitting an RF signal from the object to at least three receivers;
 - transmitting signals from a plurality of beacon transmitters to the at least three receivers, said plurality of beacon transmitters each being at a known location, each of the beacon transmitters having an independent local clock;
 - calculating, at each of the at least three receivers, a plurality of time difference of arrival data based on respective signals from said plurality of beacon transmitters and the RF signal transmitted from the object; and
 - determining a location of the object within said area of interest based on said time difference of arrival data from said at least three receivers.
2. (previously presented) The method of claim 1, wherein said RF signal comprises a ultra-wideband signal.
3. (previously presented) The method of claim 2, wherein said ultra-wideband signal comprises a transmitted-reference ultra-wideband signal.
4. (previously presented) The method of claim 1, wherein the step of determining a location of the object comprises using a maximum likelihood algorithm.
5. (canceled).

6. (previously presented) The method of claim 1, wherein the step of determining the location of the object comprises using a maximum likelihood algorithm.

7. (previously presented) The method of claim 2, wherein said ultra-wideband signal comprises a transmitted-reference, delayed hopped ultra-wideband signal; and wherein the step of transmitting a transmitted-reference, delayed hopped ultra-wideband signal comprises generating pairs of pulses separated by a time interval D and encoding by relative polarity of pulses of said pairs; and wherein the step of calculating time difference of arrival information comprises delaying received signals by the time interval D .

8. (previously presented) The method of claim 7, wherein the step of transmitting further comprises generating the pairs of pulses at a pulse repetition rate which is variable in order to shape a spectrum of transmission.

9. (previously presented) The method of claim 7, wherein transmitted-reference, delayed hopped ultra-wideband signals are transmitted from a plurality of objects, each transmitted-reference, delayed hopped ultra-wideband signal having a different time interval D between pulses of said pairs.

10. (previously presented) The method of claim 2, wherein the step of transmitting the ultra-wideband signal is performed by a transmitter carried by a patient, and wherein said area of interest is a medical facility.

11. (previously presented) The method of claim 9, wherein the step of transmitting the ultra-wideband signal further includes transmitting medical information of said patient with the ultra-wideband signal.

12. (previously presented) The method of claim 2, wherein the step of transmitting the ultra-wideband signal is performed by a transmitter attached to medical equipment, and wherein said area of interest is a medical facility.

13.-21. (canceled).